



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,907	10/20/2003	Reynold V. D'Sa	42390P7945C	3974

8791 7590 09/12/2005

BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025-1030

EXAMINER

MEONSKE, TONIA L

ART UNIT

PAPER NUMBER

2183

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/689,907	<b>Applicant(s)</b> D'SA ET AL.	
	<b>Examiner</b> Tonia L. Meonske	<b>Art Unit</b> 2183	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7,9,10,21,23,24,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7,9,10,21,23,24,26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1, 7, 9, and 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
3. The language of the claims raises a question as to whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

Art Unit: 2183

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 21, 23, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Talcott, US Patent 6,272,623, cited in the IDS filed on October 20, 2003.

7. Referring to claim 21, Talcott has taught a circuit, comprising:

- a. a register (Figure 2, element 240);
- b. a data shifting circuit having an input coupled to an output of the register (Figure 2, element 230);
- c. an exclusive OR circuit having a first input coupled to an output of the data shifting circuit (Figure 2, element 250, g is the first input from element 240 through element 230);
- d. a multi-element array (element 220) comprising of at least a shift value and a transform (column 3, lines 30-43, Element 220 has plurality of shift registers with each register storing the most recent conditional outcomes.), said array coupled to a second input of the exclusive OR circuit to transfer transform data to the exclusive OR circuit (Element 220 outputs l which is the second input to element 250.), and further coupled to the data shifting circuit to transfer data shift information to the data shifting circuit (Figure 2, Element 220 and 230 are directly coupled.); and
- e. a prediction logic circuit coupled to an output of the exclusive OR circuit (Figure 2, element 260).

8. Referring to claim 23, Talcott has taught the circuit of claim 21, as described above, and wherein the data shifting circuit includes a plurality of inputs coupled to the output of the register

Art Unit: 2183

(Figure 2, g bits are input to the data shifting circuit.) to shift data from the register by a selected number of bits (Figure 2, The data shifting circuit shifts the g bits adjacent to the i bits for the XOR circuit 250.).

9. Referring to claim 24, Talcott has taught a computer system comprising:
  - a. an instruction execution pipeline (Figure 1);
  - b. a transform generation circuit coupled to the instruction execution pipeline and including:
    - i. a register (Figure 2, element 240);
    - ii. a data shifting circuit having an input coupled to an output of the register (Figure 2, elements 230);
    - iii. an exclusive OR circuit having a first input coupled to an output of the data shifting circuit (Figure 2, element 250, g is the first input to element 250 from element 240 through element 230);
    - iv. a multi-element array (element 220) comprising of at least a shift value and a transform (column 3, lines 30-43, Element 220 has plurality of shift registers with each register storing the most recent conditional outcomes.), said array coupled to a second input of the exclusive OR circuit to transfer transform data to the exclusive OR circuit (Element 220 outputs l which is the second input to element 250.), and further coupled to the data shifting circuit to transfer data shift information to the data shifting circuit (Figure 2, Element 220 and 230 are directly coupled.); and

- v. a prediction logic circuit coupled to an output of the exclusive OR circuit (Figure 2, element 260).

10. Claim 26 does not recite limitations above the claimed invention set forth in claim 23 and is therefore rejected for the same reasons set forth in the rejection of claim 23 above.

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 9, 10, and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Pan et al., US Patent 5,553,253, cited in the IDS filed on October 20, 2003.

13. Referring to claim 1, Pan et al. have taught a method, comprising:

- a. providing at least three elements, including a first element and a last element (Abstract, 3 successive branch instructions.), each element having an associated parameter (Figure 3, A27, A28, A29 is a parameter associated with the first element, or branch instruction.);
- b. providing a first identifier for the first element (Figure 3, P0 and P1 is the identifier for the first element, or branch instruction.);
- c. for a first sequential execution of the at least three elements, performing a first operation on the first identifier and at least one of the parameters to produce a transform (Figure 3, When a first branch is taken the 2-bit up/down counter increments the identifier and produces a transform, C0 and C1.);

Art Unit: 2183

- d. saving the transform (Figure 3, The transform, Co, C1 is saved in the branch prediction table.); and
  - e. for a second sequential execution of the elements, performing a second operation on the transform to produce a last identifier associated with the last element (Figure 3, When the last element, or the third branch, is taken, the 2-bit up/down counter increments the transform to produce a last identifier associated with the last element, C0, C1);
  - f. using the last identifier to access a location in a multi-element prediction array (Elements C0 and C1 access element 14 at a location to input data.) comprising of at least a shift value and a transform (column 4, lines 31-53, Element 14 contains a plurality of values, including shift and transform values. The first bit of each field is a shift value and the second bit of each field is a transform value.); and
  - g. using a content of said location to predict a decision status of the last element (Figure 3, P0 is a content of the location that is used for the prediction. If the P0 has a value of 1 then the branch is taken. If P0 has a value of 0 then the branch is not taken.).
14. Referring to claim 9, Pan et al. have taught the method of claim 1, wherein the at least three elements are branch instructions in an execution pipeline (Abstract, Three successive branch instructions are executed in a pipeline.).
15. Referring to claim 10, Pan et al. have taught the method of claim 1, further comprising: using the last index to access a location in a prediction array (Figure 3, element 14, The branch prediction table is indexed by S0, S1, and S2 to access a location in the table.); and

Art Unit: 2183

- a. using a content of said location to predict a decision status of the last element (Figure 3, P0 is a content of the location that is used for the prediction. If the P0 has a value of 1 then the branch is taken. If P0 has a value of 0 then the branch is not taken.).

16. Claim 27 does not recite limitations above the claimed invention set forth in claims 1 and 10 and are therefore rejected for the same reasons set forth in the rejection of claims 1 and 10 above.

### ***Response to Arguments***

17. Applicant's arguments with respect to claims 1, 9, 10, 21, 23, 24, 26, and 27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L. Meonske whose telephone number is (571) 272-4170. The examiner can normally be reached on Monday-Friday, with every other Friday off.

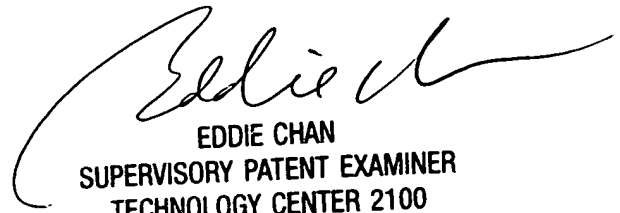
19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P. Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Art Unit: 2183

tlm



EDDIE CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100